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ABSTRACT

The Wallingford Wellness Project was a 3-year community-based health promotion program for the independent elderly (persons over 54 years of age) which offered education and behavior change training in physical fitness, stress management, nutrition, and environmental awareness and action. The experimental group (N=90) participated in a pretest, the 21-week program, an immediate posttest, a 6-month follow-up, and a 2-year follow-up. The comparison group (N=44) participated in the pretest, 6-month follow-up, and 2-year follow-up. Experimental (N=50) and comparison (N=31) group subjects in the 2-year follow-up were mailed a shortened version of the original questionnaire to investigate the project's long-term outcome effectiveness on health behavior, information, risk, status, and service utilization. Analyses revealed long-term program effectiveness in sustaining, above pretest levels, participant improvements in lifestyle habits and health information achieved at posttest and 6 months. The data, however, clearly showed these program benefits to have declined from the 6-month follow-up. Positive posttest and 6-month follow-up program effects related to mental health, responsibility for health, and risk to heart attack and stroke were not shown to have been sustained at long term. Health service utilization behavior and health status at long term also were not found to be significantly changed from pretest. Decreased involvement in health promotion classes and premature long-term evaluation may partially explain these results. (NRB)

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# Evaluation of Long-Term Effects of Health Promotion Program with the Elderly[1]

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## Abstract

A two-year followup evaluation was conducted on participants of a health promotion program for the elderly and their matched comparison group to investigate the long-term outcome effectiveness on health behavior, information, risk, status, and service utilization. Subjects from the first study were mailed a shortened version of the original questionnaire. Analyses revealed long-term program effectiveness in sustaining, above pretest levels, participant improvements in lifestyle habits and health information achieved at posttest and six months. The data, however, clearly showed these program benefits to have declined from the six month followup. Positive posttest and six-month followup program effects related to mental health, responsibility for health, and, risk to heart attack and stroke were not shown to have been sustained at long term. Health service utilization behavior and health status at long term also were not found to be significantly changed from pretest. Decreased involvement in health promotion classes and premature long-term evaluation are offered as partial explanations of these results.

# Long-Term Outcome Effectiveness of a Health Promotion Program for the Elderly: The Wallingford Wellness Project

The following article presents the research findings of a study conducted to investigate the long-term outcome effectiveness of the Wallingford Wellness Project (WWP), two years following participant graduation from the program. WWP was a three year demonstration, community-based health promotion program for the independent elderly living in the community; independent elderly were defined as persons over 54 years of age not living in nursing homes or other long term care facilities. The program was developed in 1979-80, pilot tested on 47 elderly persons, refined, and then administered to 90 persons over 54 years of age. Complete descriptions of class content are documented in FallCreek and Mettler (1984) and FallCreek and Stam (1982), but a brief description of the program ensues.

The program offered 21 weeks of education and behavior change training in four main health areas known to affect wellbeing in everyday life (McCamy and Presley, 1975): physical fitness (PF), stress management (SM), nutrition (N), and environmental awareness and action (EA). In contrast to individual health promotion classes in the areas of PF, SM, and EA, WWP was a comprehensive, integrated program that incorporated all four components; as a result, it was assumed to have a synergistic effect in promoting health, with the whole being greater than the sum of the parts (FallCreek and Stam, 1982). In addition, groups were carefully structured to facilitate learning and trying out behavioral changes. Group process was assumed to be an essential component in supporting changes in the four health areas. A participatory learning model was utilized that drew

upon behavioral change methodology, health-related information and skills, and communication skills. PF, SM, and N were each taught for 7 consecutive weeks, 3 hours per week; EA ran concurrently for the entire 21 weeks. Participants were divided, according to their class time preference, into small groups, 10-20 per group. The same program was given to each group, but the order in which the class components were taught varied between groups to control for possible order effects.

A brief outline of the recruitment and evaluation methodologies follows; readers are referred to Lalonde and FallCreek (in press) for a complete methodological account, posttest, and 6 month followup results of the original study. Participation in the program and study was voluntary. The program was advertised via various media and an experimental group (N=90) recruited from respondents. All persons over 54 years of age requesting inclusion in the program were admitted, provided they could attend the senior center where the program was housed. A comparison group (N=44) was recruited from church groups, social groups, and senior housing complexes in the same geographic locations from which the experimental group was drawn. Analyses verified the comparability of the two groups at pretest. No significant differences were found (all $p$ values were greater than .05) between the experimental and comparison group in terms of age, sex, socio-economic status (as measured by yearly income), marital status, and physical and psychosocial health (as measured by the Sickness Impact Profile, Bergner et al., 1981).

Although program participants ranged from 13 to 87 years of age, research interest focused on persons over 54 years of age. The overall study design for the two cohorts was as follows:

| | Pretest | Program Participation | Immediate Posttest | 6 mo. Followup | 12 mo. Followup | Long Term Followup |
|---|---|---|---|---|---|---|
| 2nd exp | Yes | Yes (21 wks) | Yes | Yes | | Yes |
| 2nd comp | Yes | | ___ | Yes | | Yes |

A questionnaire was developed consisting of: 1) demographic variables such as age, sex, marital status, ethnicity; 2) measures of health knowledge, attitudes toward health, mental and social health, risk to heart attack and stroke, behavior change, number of reported health problems, number of reported prescribed medications; 3) health behaviors, including the number of doctor visits over a one year period, the number of hospitalizations and nursing home admissions over a one year period, and morbidity rates over a six month period. The questionnaire was administered to both the experimental and comparison groups prior to the experimental group's participation in the program, and then six months following the experimental group's graduation from the program. The experimental group also completed two parts of the four-part questionnaire immediately following completion of the program. Logistics of time, the expense involved, and the threat of comparison group attrition did not allow posttest evaluation on the comparison group.

Analyses revealed the program to be effective in promoting and sustaining healthy lifestyle changes in the experimental group in areas related to PF, SM, N, and EA up to six months following graduation from the program. Similarly, it was found to be effective in increasing their health information, and decreasing their risk to heart attack and stroke. These program benefits were not shared by the comparison group. The experimental group's health service utilization behavior (e.g., number of doctor visits

in the year prior to evaluation, number of hospitalizations and nursing home admissions in the year prior to evaluation), and health status (e.g., number of reported health problems and prescribed medications, number of days of reduced activity due to illness or injury) were not significantly impacted by the program, as measured at posttest and six months following the experimental group's graduation from the program. It was assumed, however, that WWP's six month evaluation period was too short to capture these effects.

The following study was conducted, therefore, to investigate the long-term outcome effectiveness of WWP two years following the experimental group's graduation from the program. Specifically, the program was evaluated in terms of its effectiveness in:

1. increasing health status; i.e., decreasing chronic health problems, medications, and days of limited activity due to illness or injury;
2. decreasing health service utilization, i.e., number of doctor visits, nursing home and hospital admissions in the year prior to evaluation;
3. sustaining the healthy lifestyle behavior changes, increased health information, responsibility for health, mental health, and decreased risk to heart attack and stroke found in the experimental group at posttest and/or the six month followup.

## Methodology

Limitations of time and funds prevented interviews, as was possible with the posttests and six and 12 month followups. Given the time elapsed since WWP and the more impersonal nature of a mailed questionnaire, project staff thought

it important to pay each experimental group subject $5.00 and comparison group subjects $10.00 upon return of the completed questionnaire.

A shortened version of the original questionnaire was mailed to the experimental and comparison groups from the earlier study. The questionnaire consisted of the following measures:

- the Rand Mental Health Index (Brook et al., 1979): a 46-item scale providing measures on anxiety, depression, positive wellbeing, emotional ties, emotional stability, and a composite mental health index score (internal consistency and test-retest reliability coefficients for the six subscales range from 0.72 to 0.80);
- the Rand Social Health Index (Brook et al., 1979): an 11-item scale measuring group participation, social contacts, and total social health (reliability coefficients equally respectable as for the Rand Mental Health Index measures);
- twenty-three health information questions (three to five point response format) developed by WWP staff to measure health knowledge in the areas of PF, SM, N, and EA;
- the Simplified Self-Scoring Test for Heart Attack and Stroke Risk (Farquhar, 1978): a six-item scale measuring susceptibility to heart attack and stroke by investigating behavioral indices such as amount of salt, fat and cholesterol in the diet, weight, smoking habits, and the amount of stress experienced in one's life;
- twenty-four true-false questions developed by WWP staff to measure behavioral change in areas related to PF, SM, N, and EA (see Lalonde and FallCreek, in press, for examples of these and the health information questions mentioned above);

- health service utilization questions, including the number of doctor visits in the year prior to the long-term evaluation, the number of hospital and nursing home admissions in the same time period;
- health status questions, including the number of different medications taken, the number of days of limited activity due to illness or injury, and the number of reported health problems;
- questions concerning participation in other health promotion related classes, excluding WWP classes, in the two years prior to the long-term evaluation.

Attrition up to the time of the six month followup left a possible 54 experimental and 40 comparison group subjects for the long-term followup study. Of these, 86% returned completed questionnaires: 50 experimental and 31 comparison group subjects. Of those who did not respond, some had died or were too ill to complete the questionnaire. Some comparison group subjects refused to complete the questionnaire, despite the ten dollar incentive to complete and return the questionnaire.

In order to explain the research, answer questions, and encourage subjects' responses, two of the project staff, who had worked on the WWP, telephoned each possible subject. During these phone calls, numerous experimental subjects spontaneously mentioned the program's benefits to them and ways that they had incorporated healthy behaviors into their lifestyles. Their enthusiastic comments and the high response rate may reflect how much the WWP had meant to them.

## Results

Bracketed numbers preceding the t-values in this presentation refer to degrees of freedom. Variance in these values are attributable to missing data;

either participant attrition from pretest to long-term followup, or the assignment of a blank score if subjects did not answer questions on the questionnaire. For the most part, the Student t-statistic was employed to investigate program impact differences between groups at long-term, and differences within and between groups at the various evaluation points (e.g., pretest vs. long-term; 6 month followup vs. long-term). The chi-square was employed to investigate program impacts on categorical variables. Table 1 presents descriptive statistics of the experimental and comparison group.

TABLE 1

Descriptive Statistics

| | 2nd Exp. (N=54) | 2nd. Comp. (N=40) |
|---|---|---|
| Age Range | 55-82 | 61-85 |
| Mean Age | 68.0 | 71.3 |
| % Female | 76.0 | 80.6 |
| % Married | 52.0 | 38.7 |
| % Widowed Divorced or Separated | 13.6 | 12.6 |
| % Living Alone | 38.0 | 48.4 |
| % Live Spouse Only | 40.0 | 38.7 |
| % Caucasian | 100.0 | 100.0 |

Table 2 presents the original study's significant ($p \leq .05$) immediate, posttest, and six month followup results on variables investigated again at long-term. As mentioned earlier, complete posttest and six month followup findings are reported in a previously published article (Lalonde and

FallCreek, in press). Only findings significant at the .01 alpha level were reported in that article, however, due to the large number of variables investigated in the original study and the increased probability of finding significant results simply by chance. Table 2 presents the posttest and six month followup findings significant at or below the .05 alpha level since the probability of finding significant results by chance alone were greatly reduced in the current study by limiting the variables investigated.

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Insert Table 2 About Here

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Table 3 presents the significant findings ($p \leq .05$) at long-term as compared to pretest, posttest, and six month followup data. The table shows the experimental group to have significantly increased ($t$ (45) = -2.29, $p$ .05) their number of doctor visits in the twelve month period prior to long-term assessment, as compared to the same time period before the six month followup. The number of doctor visits reported by the experimental group at pretest and at long-term, however, did not differ significantly ($p$ = .217), nor did this variable differ significantly between the experimental and comparison groups at long-term ($p$ = .156).

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Insert Table 3 About Here

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The data also indicate a significant increase at long-term, as compared to pretest, in the number of medications (prescribed and nonprescribed)

taken by both the experimental and comparison groups ($t$ (48, 29) = -2.62 and -2.55, respectively, $p \leq .05$). No significant difference was found between the groups in the number of medications taken at long-term ($p = .794$).

The experimental and comparison groups both assessed their health to be better at long-term than at the six month followup assessment ($t$ (46, 29) = -3.69 and -2.80, respectively, $p \leq .01$). The experimental group also assessed their health to be significantly better at long-term than at pretest ($t$ (49) = -3.34, $p \leq .01$). Although the comparison group showed a similar trend, the effect was just slightly above significance level ($p = .07$). No significant difference was found between the groups in self-assessment of health at long-term ($p = .951$).

More persons in both the experimental and comparison groups appeared not to know at long-term whether or not they had a particular health problem, as compared to pretest ($t$ (48, 30) = -3.29 and -2.68, respectively, $p \leq .01$) and the six month followup ($t$ (47, 29) = -3.58 and -2.92, respectively, $p \leq .01$). The questionnaire asked persons to check 'yes', 'no', or 'don't know' on a list of 32 common health problems experienced by elderly people (e.g., cancer, diabetes, frequent headaches, hernia, nausea or vomiting). The comparison group reported significantly more health problems (yes responses) at long-term than they did at 6 months ($t$ (29) = -2.13, $p \leq .05$). The experimental group, however, showed a similar trend, although slightly above significance level ($p = .078$), thus yielding no significant difference between the groups at long-term in the number of health problems reported ($p = .438$) and the number of "don't knows" ($p = .775$).

The experimental group reported reduced health interference with daily activities in the three month period prior to long-term evaluation, as compared to the same period before the six month followup ($t$ (44) = 2.49, $p \leq .05$). Even though this result did not show up for the comparison group ($p = .110$), the data indicate no significant differences between the groups in this variable at long-term ($p = .303$).

The experimental group demonstrated a significant reduction in health promotion-related classes in the two year period prior to long-term assessment, as compared to the same time period prior to the six month followup. Involvement in WWP classes was discounted. At long-term, however, the experimental group was shown to be involved in significantly more health promotion classes than the comparison group (corrected chi square value with one degree of freedom = 4.053, $p \leq .05$).

The data indicate that whereas the experimental group appeared to have sustained, at long term, their reduced risk to heart attack and stroke (all p values $>$ .05) achieved at the six month followup, their overall risk ($t$ (47) = -2.58, $p \leq .05$) and specifically their risk related to salt intake ($t$ (47) = -2.48, $p \leq .05$) and lack of physical activity ($t$ (45) = -3.74, $p \leq .01$) had significantly increased at long-term compared to posttest. For the most part, apart from risk related to stress and tension, their risk for heart attack and stroke, at long-term, was not significantly different from their risk at pretest (all p values .05). At long-term, risk related to stress and tension was significantly reduced as compared to pretest ($t$ (46) = 2.51, $p \leq .05$). At long-term, the experimental and comparison groups reported the same amount of risk to heart attack and stroke in all risk factors except physical fitness. The experimental group showed a significantly lower level ($t$ (75) = -2.66, $p \leq .01$) of risk related to lack of physical activity than the comparison group at long-term.

In terms of the mental health variables investigated, at long term the experimental group showed a significant increase in depression as compared to the six month followup ($t$ (46) = -2.54, $p \leq .05$), thus cancelling the decreased depression benefit reported at posttest and six months. The comparison group sustained, at long-term, the decreased depression reported at six months ($p = .069$), but did not differ significantly in depression from the experimental group at long-term ($p = .214$). Similarly, although the experimental group sustained, at long-term, the positive wellbeing effects reported at posttest and six months ($p = .064$ and .254, respectively) and the comparison group lost this six month effect at long term ($t$ (29) = 2.20, p .05), no significant difference was found between the groups in this variable at long-term ($p = .173$). The experimental group also reported significantly increased emotional ties at long-term from pretest ($t$ (48) = -2.25, $p \leq .05$), but no significant difference was found between the groups in this variable at long-term ($p = .124$).

In terms of the social health variables investigated, the experimental group reported no significant difference in the number of voluntary groups to which they belonged, nor their level of participation in these groups at long-term compared to pretest ($p = .750$), posttest ($p = .321$), and the six month followup ($p = .448$). Although the comparison group reported a significant decline in this group participation variable at long-term, compared to pretest ($t$ (30) = 3.26, $p \leq .01$), and a decline from the six month followup to long-term, slightly above the significance level ($p = .081$), no significant difference was found between the groups in terms of group participation at long-term ($p = .125$). No significant within and between group differences were found in social contacts (number of close friends, frequency of visits to and by friends), and overall social health at any of the evaluation points ($p > .05$).

Comparing pretest and long-term data, the experimental group, at long-term, demonstrated significant improvements in lifestyle habits related to PF, SM, and N as compared to pretest ($t$ (49) = -6.08, -6.83, and -3.76, respectively, $p \leq .001$) but not EA ($p = .239$). Comparing across evaluation points, however, it would appear that even though the experimental group was practicing more healthy PF, SM, and N habits at long-term than they did before entering WWP's program, all behavioral changes in lifestyle habits have declined from the six month followup. At long-term, the experimental group was shown to be practicing significantly more healthy lifestyle habits related to PF and N ($t$ (79) = 2.80 for both variables, $p \leq .01$) than the comparison group, but no significant between group difference was found at long-term in lifestyle habits related to SM and EA ($p = .083$ and .231, respectively).

Similarly, at long-term, the experimental group demonstrated more health information related to PF, SM, N, and EA than the comparison group ($t$ (78, 76, 77, 77) = 2.87, 2.26, 2.80 and 3.19, respectively, $p \leq .05$) and, except for nutrition, sustained the health information levels achieved at posttest and six months ($p > .05$). Information related to nutrition was shown to have declined from posttest ($t$ (49) = 2.56, $p \leq .05$) and six months ($t$ (45) = 2.30, $p \leq .05$) back to pretest level ($p = .550$).

## Discussion and Program Implications

Long-term outcome effectiveness of WWP was investigated, in part, in terms of the program's continued impact on lifestyle habits. In this regard, WWP was shown to be effective in sustaining, above pretest scores, the behavioral changes initiated in three health areas: physical fitness, stress management, and nutrition. The data, however, clearly showed that these behavioral changes

have declined from the six month followup. The significant decrease in health promotion classes is offered as a viable reason for these declines. Behavioral changes are difficult to initiate and even more difficult to sustain over time. Theory and research suggest that ongoing peer support, found perhaps in other health promotion classes and voluntary groups, can prevent or retard decline in behavioral change (Miller and Solomon, 1980; Nicoley-Colquitt, 1981; Whitbourne and Sperbeck, 1981). Both the support and control elements of groups can serve to influence an individual's management of change and result in healthy adaptations. Accordingly, the group process includes factors that can promote change, such as the installation of hope, imparting of information, development of socializing techniques, and group cohesiveness (Caplan, 1974). In fact, the WWP staff had deliberately structured their group process to involve participants as active collaborators in the learning process and to create a supportive atmosphere in which to practice new ideas and behaviors. Group support, including reinforcement, periodic review and evaluation of behavioral changes, was assumed to be a critical factor in supporting changing lifestyle behaviors. Accordingly, the absence of a low risk, supportive group environment could precipitate declines in behavioral change.

The experimental group's participation in voluntary groups at long-term was no different from their participation at pretest; however, they showed a significant reduction in the number of health promotion classes compared to those attended at six months, and were no longer involved in the participant support groups initiated immediately prior to their graduation from the program. It is hypothesized that if they had continued with their support groups and/or had become involved in other health promotion classes or voluntary groups, their behavioral changes would have been sustained at an

even higher level. This hypothesis could not be reliably tested as a further breakdown of the groups into participators and nonparticipators did not yield sufficient numbers in each cell to allow analyses.

Long-term effectiveness of the program was also measured in terms of its ability to sustain improved health information. With the exception of nutrition, WWP participants sustained, at long term, their increased health information over pretest levels. Nutrition information was most susceptible to decline over time, perhaps due in part to the more technical and complex nature of the questions asked. At long-term, however, program participants were more knowledgeable than the comparison group in all four health information areas measured.

For the most part, the mental health benefits, increased health responsibility, and decreased risk to heart attack and stroke found at posttest and/or six months, were not sustained at long-term. Again, these findings support the short-term benefits of health promotion programming, but suggest the need for sustained programmatic intervention over time.

Disappointingly, long-term outcome effectiveness of WWP in reducing health service utilization behavior and health status was not supported statistically. Possible effects of aging on both the experimental and comparison groups were evident in the increased number of medications taken and, perhaps the increased number of "don't know" responses to the list of health problems, if one interprets "don't know" as confusion or forgetfulness. Similar to other research findings on self-assessment of health by the elderly (Harris, 1981), both groups reported themselves to be healthier at long-term than at previous evaluation points. Lack of other health service utilization behavior and health status findings may be attributed, in part, to decreased adherence on the part of program

participants to the healthy lifestyles practiced at posttest and the six month followup. There is also the possibility the long-term investigation was premature by several years. No one knows for sure how long one needs to practice healthy lifestyle habits to impact health service utilization and health status.

In summary, the Wallingford Wellness Project appears to have been most effective in the short-term, up to six months following participant graduation from the program, in terms of initiating and sustaining healthy lifestyle change, increasing health information, mental health, and responsibility for health, and decreasing risk for heart attack and stroke. Their decreased involvement in health promotion classes during the past two years may partially explain why the gains in health behavior shown at the six month followup have not been fully sustained. Those findings suggest the short-term benefits of health promotion programming, but also that continued intermittent programmatic intervention may be required to sustain these changes over the long-term and to evidence program benefits related to health service utilization behavior and health status.

Participants' Anecdotal Feedback on WWP

When WWP participants returned their questionnaires, a number of them added comments about what the program had meant to them. A sample of these quotes are included in an effort to capture the way in which individual's lives were positively changed by this health promotion program.

*Your help with our attitudes toward health have not only kept us in good physical health, and come back after programs, but have helped us so very much with stress. Consequently, our love for one another has increased in a very beautiful way.

*How much I wish this program could continue to explore and expand. I miss the association and do not want to atrophy in mind and body and give myself exercises that I remember.

*It has been several years since I have taken the course and now I can say, what I have learned, it works!

*What has wellness meant to us? After graduating, we joined a choral group, taught aerobics at a senior center, walk three miles and exercise, have gone to Ashland, Oregon to attend classes for a week at Elderhostel, still watch diet, read labels on cans and packages, constantly talk to people about advantages we were taught in your classes, speak up when necessary. We are still a team.

*Since I will soon be 80 and life is still beautiful, even though I am crippled. I stay happy and will not let stress get to me so have learned how to cope. Glad for your classes, which helped.

*One exercise in particular has helped me a lot. For many years I had been bothered with dizziness. The condition is known as positional vertigo. Two different kinds of medicine were prescribed at two different times...but eventually, I built up an immunity to each medicine. I found that chiropractic treatments would relieve the condition. But the condition was chronic and it was necessary to take these treatments every time the problem recurred. It was the "picking grapes" exercise that helped so much. I could feel it working in the back of my head. I am sure it much have reactivated some of the nerves and muscles in that area. It hasn't been necessary to go to the chiropractor for this problem for a long time....The Wallingford Wellness Project as a whole gave me a pattern to follow, and I am still working on it.

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TABLE 2

Significant Findings ($p \leq .05$) Comparing Pretest to Immediate Posttest and Six Month Followup Scores[1]

| Immediate Posttest[2] | Six Month Followup | |
|---|---|---|
| Experimental Group | Experimental Group | Comparison Group |
| | | !Number of Medications** |
| Risk to Heart Attack/Stroke | Risk to Heart Attack/Stroke | |
| !Overall** | !Overall** | |
| !Related to Salt Intake** | | |
| !Related to Lack of Physical Activity** | !Related to Lack of Physical Activity** | |
| !Related to Stress and Tension** | | |
| Mental Health | Mental Health | Mental Health |
| Overall Mental Health** | Overall Mental Health** | Overall Mental Health** |
| Emotional Stability* | Emotional Stability* | Emotional Stability* |
| | !Anxiety* | |
| !Depression* | !Depression** | !Depression* |
| Positive Wellbeing*** | Positive Wellbeing** | Positive Wellbeing*** |
| | | Emotional Ties* |

TABLE 2 Cont'd

| Immediate Posttest[2] | Six Month Followup | |
|---|---|---|
| Experimental Group | Experimental Group | Comparison Group |
| **Social Health** | | |
| Group Participation* | | |
| Overall Social Health* | | |
| **Behavioral Changes** | **Behavioral Changes** | |
| Overall*** | Overall*** | |
| Related to PF*** | Related to PF*** | |
| Related to SM*** | Related to SM*** | |
| Related to N*** | Related to N*** | |
| Related to EA*** | Related to EA*** | |

TABLE 3

Significant Findings ($p \leq .05$) Comparing Long-Term to Pretest, Immediate Posttest[1], and Six Month Followup Scores

| Experimental Group | | | Comparison Group | |
|---|---|---|---|---|
| Long-term Compared to Pretest | Long-term Compared to Posttest | Long-term Compared to 6 Month Followup | Long-term Compared to Pretest | Long-term Compared to 6 Month Followup |
| | | Number of Doctor Visits* | | |
| Number of Medications* | | | Number of Medications* | |
| Overall Assessment of Health** | | Overall Assessment of Health** | | Overall Assessment of Health** |
| Number of Don't Knows to "Do you have (health problem)?"*** | | Number of Don't Knows to "Do you have (health) problem)?"** | Number of Don't Knows to "Do you have (health problem)?"** | Number of Don't Knows to "Do you have (health problem)?"* |
| | | | | Number of Health Problems* |

TABLE 3 Cont'd

| Experimental Group | | | Comparison Group | |
|---|---|---|---|---|
| Long-term Compared to Pretest | Long-term Compared to Posttest | Long-term Compared to 6 Month Followup | Long-term Compared to Pretest | Long-term Compared to 6 Month Followup |
| | | !Limited Activity Due to Health* | | |
| | | Participation in Health Promotion Classes | | |
| | | !Related to N** | | |
| | | !Related to SM** | | |
| | | !Related to PF* | | |
| | | !Related to EA** | | |

TABLE 3 Cont'd

| Experimental Group | | | Comparison Group | |
|---|---|---|---|---|
| Long-term Compared to Pretest | Long-term Compared to Posttest | Long-term Compared to 6 Month Followup | Long-term Compared to Pretest | Long-term Compared to 6 Month Followup |
| Risk to Heart Attack/Stroke | Risk to Heart Attack/Stroke Overall* | | | Risk to Heart Attack/Stroke |
| | Related to Salt Intake* | | | |
| | Related to Lack of Physical Activity** | | | Related to Lack of Physical Activity** |
| !Related to Stress/ Tension* | | | | |
| | | Depression* | | |
| | | | | !Positive Wellbeing* |
| Emotional Ties* | | | | |
| | | | !Group Participation** | |

TABLE 3 Cont'd

| Experimental Group | | | Comparison Group | |
|---|---|---|---|---|
| Long-term Compared to Pretest | Long-term Compared to Posttest | Long-term Compared to 6 Month Followup | Long-term Compared to Pretest | Long-term Compared to 6 Month Followup |
| Behavioral Changes | Behavioral Changes | Behavioral Changes | | |
| Overall*** | !Overall** | !Overall** | | |
| Related to PF*** | !Related to PF** | !Related to PF* | | |
| Related to SM*** | !Related to SM** | !Related to SM* | | |
| Related to N*** | !Related to N** | | | |
| | | !Related to EA** | | |
| Health Information | Health Information | Health Information | | Health Information |
| Overall* | !Overall* | | | |
| Related to PF* | | | | |
| Related to SM* | | | | Related to SM* |
| | !Related to N* | !Related to N* | | |
| Related to EA* | | | | |

[1]Immediate posttest data were not collected on the comparison group

*p ≤ .05; **p ≤.01; ***p ≤.001; ! = decrease